

PRIMARY CARCINOMA OF THE BULBOUS URETHRA.

A STATISTICAL DIGEST, WITH REPORTS OF SOME UNRECORDED CASES.

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DURING the year 1901 a case of primary carcinoma of the bulbous urethra was admitted under my care at the Bradford Royal Infirmary, and by a strange coincidence another case was admitted under my colleague, Dr. Jason Wood, within a few weeks. After a careful search, I have succeeded in compiling a list of twenty-one cases in which the diagnosis has been confirmed by microscopic examination. There are also on record five cases in which no such examination was made. Three cases are also on record in which the growth arose primarily in Cowper's glands. This material apparently represents all that is known of this very rare disease. The literature of the subject is very meagre. A good description of the disease is given by Kaufmann,¹ and in 1892 Beck² recorded a case and gave a *résumé* of ten cases which he was able to collect from various sources. The most complete list of cases hitherto published is given by Patterson³ in a "Statistical Digest of Epithelioma of the Penis." In it, however, there is no record of the microscopic examinations. Beyond these papers, I have been unable to find anything except the reports of isolated cases. It occurred to me, therefore, that an accurate record of all the cases I could collect would serve a useful purpose, even if it does nothing more than provide a convenient source for future reference. I am much indebted to W. P. Montgomery for notes of two unpublished cases, and to my colleague, Dr. Jason Wood, for a report of the case which was under his care.

My own case, which I now publish for the first time, is as follows:

J. W., aged forty-nine years, was admitted into the Bradford Royal Infirmary on November 11, 1901, suffering from a perineal abscess. He stated that he was quite well until ten days previously, when a swelling appeared in the perineum accompanied by much pain. There was no difficulty in passing urine, neither had there ever been any. In my absence, Mr. Phillips, my house surgeon, incised the abscess under ether anaesthesia. A full-sized Lister's bougie was easily passed into the bladder. The patient left the hospital on November 30, 1901. There was still a sinus, but no urine came through it, and it was apparently closing. He did not attend the hospital again until June 25, 1902. He then stated that the sinus had never quite healed, and that during the last six weeks of the period which had elapsed it had grown very much bigger, and all his urine now passed through it. He had lost a stone in weight. On examination there was found a fissure-like ulcer in the perineum one and a half inches long, with broad everted edges. (Fig. 1.) Beneath it was a solid ovoid mass extending deeply into the perineum and surrounding the urethra. Per rectum, this mass was felt to be quite distinct from the prostate, and lay anterior to the triangular ligament. The whole appearance of the growth was typical of carcinoma. The inguinal glands were not enlarged, and, apart from emaciation, the general health was good.

On July 2, 1902, ether was administered, and the mass freely excised together with the anterior layer of the triangular ligament. The bulbous portion of the urethra was completely buried in the growth, and it was evident that infiltration had already extended beyond the limits of operative interference. The wound, however, healed well, leaving a perineal fistula, through which the urine was passed. The patient had complete control. At the end of a month he went to a convalescent home. The growth, on microscopic examination, proved to be a typical squamous epithelioma. Three months later a recurrence appeared (Fig. 2), which grew rapidly, and he died nine months after the operation from exhaustion. There was never any retention or incontinence from first to last, neither was there any pain or suffering. At the time of his death, the perineum was occupied by a fungating ulcer as large as a man's hand. The inguinal glands became enlarged during the last three months. No post-mortem examination was allowed.



FIG. 1.—Photograph of the primary growth taken just before operation.



FIG. 2.—Photograph showing recurrent growth in the perineum a fortnight before death.

The report of Dr. Wood's case is as follows :

J. J., a laborer, aged forty-eight years. Admitted into the Bradford Royal Infirmary with chronic retention of urine. He gave a history of six months' increasing difficulty in passing urine, which he attributed to the presence of a swelling in the perineum. He has had little or no pain, but he cannot voluntarily pass urine, although it is always dribbling away from him. He has lost flesh rapidly. On his admission the bladder was distended above the pubes, although a catheter passed easily into it. In the perineum was a brawny swelling extending into the scrotum. It was well defined and without any surrounding cellulitis. The inguinal glands were slightly enlarged.

Ether was administered and the swelling incised, and found to surround the bulbous urethra, which consisted of a ragged cavity containing much débris. Three weeks later the patient died of septic absorption. At the post-mortem examination the mass in the perineum was found to consist of a carcinomatous growth closely adherent to the triangular ligament. It had eroded the pubic bone, but had not extended to the prostate. The inguinal glands were infected. Under the microscope, the growth proved to be a typical squamous epithelioma.

In both these cases there was no history of venereal disease, neither had the patients suffered from any symptoms of urethral stricture prior to the onset of the disease. The previous history of Montgomery's two cases is also similar in these respects. The details of his cases are as follows :

The first case occurred in a man aged fifty-three years. There was a well-localized growth situated three inches from the meatus. A total extirpation of the penis and crura was performed. When last seen, four months after the operation, there was no recurrence. Microscopically the growth was a squamous epithelioma.

In the second case, occurring in a man aged forty-seven years, there was a perineal abscess following on a six months' history of stricture. Perineal section was performed. Death occurred three months later. In this case, also, the diagnosis of squamous epithelioma was proved by microscopic examination.

After a careful examination of the cases I have been able to collect, I have tabulated them in three classes; firstly, those

PRIMARY CARCINOMA OF URETHRA.

I.—RECORD OF CASES CONFIRMED BY MICROSCOPICAL EXAMINATION.

| Date. | Reporter. | Reference. | Age of Patient. | Treatment. | Microscopical Report. | Result. |
|--------|----------------------|--|-----------------|----------------------|-----------------------|---|
| 1 1861 | Hutchinson. | Trans. Path. Soc. Lond., xiii, 167. | 22 | Amputation of penis. | Squamous carcinoma | Slight recurrence 3 months later. Remained well 8 months later. |
| 2 1865 | Thiersch. | Der Epithelial krebs Namentlich der Haut., p. 283. | 60 | Perineal section. | " | Death 1 month later. |
| 3 1881 | Schustler. | Wiener medicin. Wochenschrift, p. 120. | 72 | Incision of abscess. | " | Death in 6 months. |
| 4 1881 | Poncet. | Gazette Hebdomadaire, p. 282. | 60 | Excision. | " | Death in 8 months. |
| 5 1883 | Guyon. | Ann. des Mal. des Organ. Gén.-Urin., p. 513. | 52 | Incision of abscess. | " | Death in 5 months. |
| 6 1884 | Mikulicz-Trzebinski. | Wien. med. Wochenschrift, xx, xxi. | 68 | Amputation of penis. | " | Recurrence in 6 months. |
| 7 1885 | Paul. | Lancet, i, p. 1127. | 54 | Perineal section. | " | Death in 7 months. |
| 8 1889 | Griffiths. | Trans. Path. Soc. Lond., xl, p. 177. | 70 | Perineal section. | " | Death in 1 month. |
| 9 1891 | Czerny-Witzenhausen. | Beiträge zur klinischen Chirurgie, vii, p. 571. | 55 | Perineal section. | " | Death in 18 months. |

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|----|------|--------------------------|--|-------------|-----------------------|--------------------|-----------------------------|
| 10 | 1891 | Czerny- Witzenhausen. | Beiträge zur klinischen Chirurgie, vii, p. 571. | 48 | Excision. | Squamous carcinoma | Death in 6 months. |
| 11 | 1893 | Beck. | International Clinics, ii, p. 256. | 61 | Perineal section. | " | Lost sight of. |
| 12 | 1893 | Oberlander. | Internat. Centralblat. f. Ham. u. Sex. Organ., iv, p. 244. | 69 | Resection of urethra. | " | No recurrence in 21 months. |
| 13 | 1894 | Albarrau. | Congrès de Chir. Français, Lyons, Eighth Session, p. 140. | 43 | Total emasculation. | " | Death in 9 months. |
| 14 | 1895 | Buday. | Langenbeck's Archives, xlix, p. 101. | 67 | Amputation of penis. | " | ? |
| 15 | 1895 | Bazy Carey. | Thèse de Paris, May 30, 1895. | 62 | Total emasculation. | " | No recurrence in 10 months. |
| 16 | 1895 | Fuller. | Journ. Cut. and Genito-Urin. Diseases, p. 158. | An old man. | No treatment. | " | Death. |
| 17 | 1901 | Montgomery. | Medical Chronicle, June, 1901. | 54 | Perineal section. | " | Death in 9 months. |
| 18 | 1902 | Montgomery. | Personal communication. | 53 | Amputation of penis. | " | No recurrence in 4 months. |
| 19 | 1902 | Montgomery. | Personal communication. | 47 | Perineal section. | " | Death in 3 months. |
| 20 | 1902 | Jason Wood. | Personal communication. | 48 | Perineal section. | " | Death in 1 month. |
| 21 | 1903 | Basil Hall. | Present case. | 50 | Excision. | " | Death in 9 months. |

II.—DOUBTFUL CASES.

| Date. | Reporter. | Reference. | Age. | Treatment. | Remarks. |
|--------|-------------|---|-----------|--------------------|---|
| 1 1835 | Thiaudière. | Schmidt's Jahrbuch, Band vii, p. 83. | Young (?) | Excision. | Not confirmed by microscopic examination. Kaufmann rejects this case on clinical evidence also. (Verletzungen und Krankheiten der männlichen Harnröhre, 50.a, 1886.) |
| 2 1867 | Billroth. | Chirurgische Klinik, Zürich, p. 344. | 50 | ? | Induration one and a half inches long in urethra first in front of scrotum. Enlarged inguinal glands. Not confirmed by microscopic examination. This case is also rejected by Kaufmann. (Ibid.) |
| 3 1881 | Poncet. | Gazette Hebdomadaire, p. 282. | 56 | Refused treatment. | Not confirmed by microscopic examination. Died in five months. |
| 4 1885 | Albert. | Lehrbuch der Chirurgie, Dritte Aufl., Band iv, p. 230. | 55 | ? | Long induration commencing at seat of old gonorrheal stricture. Secondary nodules in corpora cavernosa and in one crus. Not confirmed by microscopic examination. |
| 5 — | Grünfeld. | Die Endoscopie der Harnröhre, etc., Deutsche Chirurgie, Lief. 50, p. 193. | 59 | ? | Died in three months. Diagnosis was made by endoscopic examination. Growth commenced in prostatic portion of urethra. |

III.—GROWTHS ARISING PRIMARILY IN COWPER'S GLANDS.

| | Date. | Reporter. | Reference. | Age. | Treatment. | Remarks. |
|---|-------|---------------------|--|------|---|--|
| 1 | 1884 | Paquet and Hermann. | Jour. de l'Anat. et de l'Physiol., 1884, p. 615. | 65 | Excision with thermocautery. | Complete recovery. Microscopic report, Epithelioma, the stroma of which has undergone hyaline degeneration. (Cylindroma?) |
| 2 | 1884 | Kocher. | Deutsche Chirurgie, Lief. 50.a. | 57 | Excision. | Small recurrence removed eighteen months after the first operation. Recovery. Microscopic report. Partly typical glandular carcinoma and partly cylindroma. (Langhans.) |
| 3 | 1885 | Pietrzikowski. | Zeitschrift für Heilkunde, 1885, vi, p. 421. | 19 | Excision of growth and inguinal glands. | Four months later secondary growths in abdomen. Microscopic report. Carcinoma very rich in cellular elements. Beck suggests alveolar sarcoma. (Internat. Clinics, 1892, Vol. ii, Second Series, p. 263.) |

in which the diagnosis has been confirmed by microscopic examination; secondly, those in which no such examination was made and which must therefore be called doubtful cases; thirdly, the three cases of growth arising primarily in Cowper's glands.

The four cases now recorded for the first time, namely, those of Montgomery together with Wood's and my own, are included in the first class. These cases, together with seventeen others which have been previously recorded, make up a total of twenty-one undoubted examples of the disease. Of the doubtful cases, five in number, three have already been rejected by Kaufmann on the ground of insufficient clinical evidence, namely, those of Billroth, Albert, and Thiaudière. Poncet's case is equally inconclusive. (It may be noted here, to prevent confusion, that Poncet has recorded two cases, one confirmed by microscopic examination and the other not so confirmed.) I have included Grünfeld's case in this class; but as the growth was said to have probably originated in the prostatic urethra, it has no right to a place except for the sake of completeness. The three cases of growth arising primarily in Cowper's glands have already been fully reported and also reviewed by Beck;² so that no further mention need be made of them here.

There remains, therefore, for consideration a list of twenty-one cases of undoubted epithelioma of the bulbous urethra. In reviewing the symptoms of this disease, Beck² wrote as follows: "Primary cancer of the urethra occurs in men over fifty who have most commonly suffered from some previous disease of the canal, usually gonorrhæal stricture. The most prominent symptom is the gradual formation of a hard, lobulated mass round the urethra. Micturition becomes increasingly difficult, and is almost always very painful, far more so than in simple stricture. Hæmorrhage, especially before and after micturition, seems to be a common symptom. As the growth extends, the crura and corpora cavernosa become implicated, and the disease advances past the scrotum into the penile portion of the urethra. The glands in the groin en-

large, and the patient becomes cachectic in appearance. The passage of instruments is from the beginning difficult, and is always followed by bleeding." In the light of experience gained from a larger number of cases than Beck had at his disposal at the time of his publication, it is evident that some of the symptoms he enumerates cannot be relied upon with any degree of certainty. In the cases observed by Wood, Griffiths, Montgomery, and myself, for example, there was a marked absence of pain and hæmorrhage, and in two of these instruments passed with great ease into the bladder. Moreover, the amount of induration associated with simple stricture varies within wide limits. Indeed, after a careful review of all the cases, I am forced to the conclusion that a differential diagnosis between malignant disease and simple induration is frequently impossible prior to operation, excepting when the size of the perineal swelling is out of all proportion to that usually found associated with simple stricture. Unfortunately, the rarity of malignant disease in this situation is such that suspicion is not easily aroused under any circumstances. As many of the cases hitherto have been only briefly reported, it is impossible to give actual figures; but there is no doubt that in many instances the diagnosis has only been made during or after an operation. It is very necessary, therefore, always to bear in mind that such cases do occasionally occur, and whenever a patient presents himself for examination with a well-marked perineal swelling, the possibility of malignancy should be carefully considered. As regards treatment, in half the cases it has been palliative and in the other half radical, after excluding one case (Fuller's) in which no treatment was adopted. Perineal section or simple incision was done in ten cases. In one of these (Beck's) the patient was lost sight of, but he certainly could not have lived more than a few weeks. One lived eighteen months, and the remaining eight all died within nine months.

Of the ten cases treated by resection or some form of extirpation, the result is unrecorded in one. Of the remaining nine, death occurred within nine months in four, and one is

stated to have had a recurrence within six months of the operation. Of the remaining four the subsequent history is incomplete, it being merely stated that there was no recurrence at twenty-one months, eleven months, ten months, and four months respectively. Whilst the results of treatment, therefore, are not encouraging, extirpation is worth a trial, provided the disease is recognised in an early stage. The growth invariably spreads towards the penis, and shows no tendency to invade the prostate and tissues behind the triangular ligament. Lymphatic infection occurs in the inguinal glands, and is therefore also amenable to surgical treatment.

With our present lack of knowledge regarding the etiology of malignant disease, the rarity of its occurrence in this situation must at present remain a mystery. It is evident, however, that the urethra of all situations should be a common one for cancer if Cohnheim's theory or the theory of chronic irritation be accepted. On the other hand, if a specific micro-organism be invoked as the essential cause, it is difficult to understand this immunity of the urethra from cancer, especially when it is remembered how easily the gonococcus infection is obtained in this situation.

REFERENCES.

- ¹ *Injuries and Diseases of the Male Urethra*, 1886.
- ² *International Clinics*, Vol. ii, Second Series, 1892.
- ³ *University of Pennsylvania Medical Bulletin*, July, 1901.
- ⁴ *Medical Chronicle*, June, 1901.